CLAIMS

1. A process for preparing Mineral Turpentine Oil (MTO) with boiling point in the range of 145° to 205°C and having saybolt color rating better than + 20 from crude oil feed, rich in nitrogen and / or active sulphur, said process comprising subjecting the petroleum hydrocarbon solvent to liquid phase adsorption in at least one column containing an adsorbent substance selected from molecular sieves, modified clays and mixtures thereof at ambient temperatures and pressure.

2. A process as claimed in claim 1, wherein the petroleum hydrocarbon solvent feed has saybolt color rating worse than + 20.

3. A process as claimed in claim 1, wherein the petroleum hydrocarbon solvent feed has saybolt color rating in the range of +5 to +20.

4. A process as claimed in claim 1, wherein the crude oil feed is selected from the group comprising of Nigerian low sulphur crude, PG mix high sulphur crude or a mixture thereof.

5. A process as claimed in claim 1, wherein the petroleum hydrocarbon solvent feed has total nitrogen content of 5.2 ppm.

6. A process as claimed in claim 1, wherein the petroleum hydrocarbon solvent feed has total sulfur content of 0.136% wt.

7. A process as claimed in claim 1, wherein the petroleum hydrocarbon solvent feed has total mercaptan content of 2.5ppm.

8. A process as claimed in claim 1, wherein the MTO has boiling point in the range of 180 to 205°C.

9. A process as claimed in claim 1, wherein the MTO has saybolt color rating greater than +20.

10. A process as claimed in claim 1, wherein the MTO has saybolt color rating in the range of +20 to + 30.

11. A process as claimed in claim 1, wherein the MTO has total nitrogen content equal to or less than 1 ppm.

12. A process as claimed in claim 1, wherein the MTO has total nitrogen content less than 1 ppm.

13. A process as claimed in claim 1, wherein the MTO has zero mercaptan content.

14. A process as claimed in claim 1, wherein the adsorption is carried out at a pressure of atmospheric to 20 kg/cm^2.

15. A process as claimed in claim 1, wherein the adsorption is carried out at an ambient temperature to 50°C.

16. A process as claimed in claim 1, wherein the molecular sieve has a core diameter of 10A.

17. A process as claimed in claim 1, wherein the molecular sieve is 13X.

18. A process as claimed in claim 1, wherein the clay is modified to increase its acidity.

19. A process as claimed in claim 1, wherein the clay is modified to increase its surface area.

20. A process as claimed in claim 1, wherein the modified clay has residual acidity in the range of 8.5 to 16 mg KOH/g.

21. A process as claimed in claim 1, wherein the modified clay has surface area in the range of 350 to 425 m.sq.^{2}/g.

22. A process as claimed in claim 1, wherein the adsorbent article is regenerated by heating it at temperatures between 200 to 300°C.

23. A process as claimed in claim 1, wherein the adsorbent article is regenerated by heating it at temperatures between 200 to 300°C in nitrogen atmosphere.

24. A process as claimed in claim 1, wherein said process can be carried out in batch wise or in continuos manner.

25. A process for preparing Mineral Turpentine Oil (MTO) having boiling point in the range of 145° to 205°C and having saybolt color rating better than + 20 from crude oil feed rich in nitrogen and / or active sulphur, said process comprising:

(i) distilling the crude oil to obtain Kerosene/Aviation Turbine fuel (ATF) cut.

(ii) subjecting the Kerosene/ATF cut to Merox treatment for removing mercaptans followed by passing it through at least one column containing fullers earth;

(iii) distilling the Merox treated Kerosene/ATF cuts to obtain MTO having boiling point in the range of 145° to 205°C and saybolt color rating less than +20 and

(iv) subjecting the MTO thus obtained to liquid phase adsorption in at least one column containing an adsorbent substance selected from molecular sieves, modified clays and mixtures thereof at ambient temperatures and pressure.

26. A process as claimed in claim 25, wherein the crude oil feed is selected from the group comprising of Nigerian low sulphur crude, PG mix high sulphur crude or a mixture thereof.

27. An apparatus for obtaining petroleum hydrocarbon solvent with improved color stability, said apparatus comprising a means for pumping the petroleum hydrocarbon solvent, a means for housing an adsorbent substance and a means for controlling the flow of the petroleum hydrocarbon solvent through the adsorbent substance.

28. An apparatus as claimed in claim 27, wherein the housing means is provided with vents.

29. An apparatus as claimed in claim 27, wherein the pumping means pump the petroleum hydrocarbon solvent from a MTO column to the housing means.

30. An apparatus as claimed in claim 27, wherein the housing means is a cylindrical column.

31. An apparatus as claimed in claim 27, wherein the housing means is a cylindrical column.

32. An apparatus as claimed in claim 27, wherein the molecular sieve has a core diameter of 10A.

33. An apparatus as claimed in claim 27, wherein the molecular sieve is 13X.

34. An apparatus as claimed in claim 27, wherein the clay is modified to increase its acidity.

35. An apparatus as claimed in claim 27, wherein the clay is modified to increase its surface area.

36. An apparatus as claimed in claim 27, wherein the modified clay has residual acidity in the range of 8.5 to 16 mg KOH/g.

37. An apparatus as claimed in claim 27, wherein the modified clay has surface area in the range of 350 to 425 m.sup.2/g.

38. An apparatus as claimed in claim 27, wherein the means for controlling the flow of the petroleum hydrocarbon solvent through the adsorbent substance comprises of valves and pumps.